Exhibit A



Deposition of: **Robert McMeeking , Ph.D.**

July 6, 2017

In the Matter of:

In Re: Bard IVC Filters Products Liability

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	Page 23
1	market.
2	BY MS. DALY:
3	Q Is it your opinion that Bard failed to
4	reduce as far as reasonably practicable the
5	remaining risks by taking adequate protection
6	measures?
7	A Can you repeat the question, please.
8	Q Yes.
9	Is it your opinion that Bard failed to
10	reduce as far as reasonably practicable the
11	remaining risks by taking adequate protection
12	measures?
13	MR. O'CONNOR: Form and foundation.
14	THE WITNESS: In certain of the designs of
15	the filters those risks, in my opinion, were not
16	reduced to the extent practicable, and I would say
17	that that applies to all of the models that we are
18	discussing in the in the present case.
19	BY MS. DALY:
20	Q And which risks do you identify that
21	you have an opinion that Bard failed to reduce?
22	A The risks of tilting, perforation,
23	migration and fracture by fatigue.
24	Q Have you determined by any research or any
25	other method that any other manufacturer of

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	Page 24
1	percutaneously retrievable IVC filters have been
2	able to reduce as far as reasonably practical
3	practicable by taking adequate protection measures
4	any of those risks you just identified?
5	MR. O'CONNOR: Form and foundation.
6	BY MS. DALY:
7	Q In filters.
8	A I have not investigated that in many
9	cases, and in other cases I'm under restrictions in
10	terms of what I can say when I have been involved
11	in investigating that.
12	Q Do you rely on any of the work that you
13	have done that you cannot talk to me about for your
14	opinions in this case?
15	A No.
16	MR. O'CONNOR: Form.
17	BY MS. DALY:
18	Q So anything that you have learned either
19	as a consulting expert or a retained expert with
20	respect to other IVC filters you do not rely on for
21	your opinions in the Bard litigation?
22	A Yeah, I do not rely on that other
23	information.
24	Q Okay. And I'm aware that you've been
25	retained in the Cook litigation.

	Page 25
1	A That's correct, yes.
2	Q Because that's been public. Okay.
3	I think you just said a moment ago that
4	with respect to all of Bard's retrievable filters,
5	that is from the Recovery to the Denali, that it is
6	your opinion that Bard has not done what is
7	reasonably practicable to take adequate protection
8	measures against tilt, perforation, migration and
9	fracture?
LO	A That's correct.
L1	Q Okay. Is it your opinion that the various
L2	modifications that Bard has made along the way to
L3	its retrievable IVC filters did nothing to reduce
L 4	the risks associated with either tilt, perforation,
L5	migration or fracture?
L6	MR. O'CONNOR: Form.
L 7	THE WITNESS: The some of the changes
L8	that were made would have some effects on one or
L9	more of those phenomena that can take place in
20	filters, and in some cases it's unclear whether the
21	measure taken had the effect intended, but but
22	there would have been some benefits from some of
23	the changes which were made.
24	BY MS. DALY:
25	Q Have you specifically modeled any filter

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	Page 26
1	from the G2X, Eclipse, Meridian or Denali models?
2	A I've modeled the G2X. I have modeled all
3	of the filters in the sense that I've made the
4	assessment that they all have similar
5	characteristics and, therefore, in certain of the
6	aspects of the behavior, the response will be the
7	same will be very similar in each of the
8	filters.
9	Q When you say "model," with respect to the
10	G2X on to the Denali, you've looked at design
11	drawings, correct?
12	A Correct.
13	Q And you've taken you've looked at the
14	measurements of the, you know, length of legs or
15	width of legs, those sorts of things, correct?
16	A Well, I've relied on the engineering
17	drawing to give me the values of those lengths.
18	Q So in that sense you've you've modeled
19	from the design drawings, correct?
20	A Well, I should I should clarify my
21	response.
22	I have looked at those drawings and I've
23	compared all the filters with each other in terms
24	of their size and shape and so on, and then that
25	has allowed me to make a deduction that my modeling

	Page 27
1	of the G2 and the G2X is representative of the
2	behavior that one would expect to see in the models
3	namely the Eclipse, the Meridian and the Denali.
4	Although not exactly the same, there would be
5	similar behavior in each of these other three
6	filters.
7	Q Have you done any FEAs specific to the
8	Eclipse, the Meridian or the Denali?
9	A I have not done FEA analysis specific to
10	the Eclipse, Meridian and Denali.
11	Q And you have not done work that would tell
12	you what the specific modifications of filters that
13	Bard has has included would do with respect to,
14	for example, loads on the filter, strains that the
15	filter is
16	A I have not
17	MR. O'CONNOR: Form and foundation.
18	BY MS. DALY:
19	Q Let me finish.
20	MR. O'CONNOR: Let her finish the
21	question.
22	BY MS. DALY:
23	Q Let me finish.
24	strains that the filter sees or loads
25	that are put on those filters?

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Page 28 Form and foundation. 1 MR. O'CONNOR: 2 THE WITNESS: I have not done any 3 calculations that specifically identify the detailed differences that would occur because of 4 5 the design changes going from the G2X through to the Denali. 6 7 BY MS. DALY: So going back to the language of the 8 0 9 standard, on what do you base your opinion that 10 Bard has not done what is reasonably practicable to 11 take appropriate protection measures in any of its 12 retrievable filters against the complications that 13 you identified? 14 Well, part of the issue is that they Α 15 should have taken certain measures sooner than they 16 ultimately did and that the measures that they 17 eventually took were not necessarily effective at 18 reducing the risk to the extent practicable and 19 they didn't investigate the consequences -- they didn't investigate thoroughly the consequences of 2.0 21 the trade-offs that were involved in the design 22 changes to modify the filters from the G2 23 through -- G2X through to the Denali. 24 How would they have done that differently? 0

Well, they would have done more

25

Α

efforts that Bard made to add these anchors and limiters that were unsuccessful initially and more

Page 34

MR. O'CONNOR: Form.

changes had to be made?

2.0

THE WITNESS: I do know that some of the designs of the caudal anchors that they investigated did not work as well as others.

BY MS. DALY:

Q The other thing you talked about was that Bard could have redesigned the configuration of its filters. It was a little vague to me. What do you mean by that?

A Well, I mean the -- the shape of the limbs, the dimension of the limbs, in other words their -- their diameter, they could have considered different numbers of limbs, they could even have considered moving to a different material. So there's a fairly large number of design choices that could have been considered, and they could well have come up with a combination of features in the design that gave them a better combination of -- of phenomena in terms of how the filter behaved.

Q Do you know -- are you aware of any steps that Bard took along the way from Recovery to

	Page 45
1	didn't have them at that time. So you don't know?
2	A I don't know.
3	MR. O'CONNOR: Form.
4	BY MS. DALY:
5	Q Having looked at the Denali filter, you do
6	see that there are some differences in that filter
7	than the previous ones, true?
8	A Yes, that's correct.
9	Q Okay. Is it your opinion that Bard has
10	failed to reduce as far as reasonably practicable
11	by taking adequate protection measures risks of
12	tilt, perforation, fracture and migration in the
13	Denali?
14	A Yes.
15	Q And what's the basis for that?
16	A Because you still see incidences of all of
17	those phenomena in Denali filters.
18	Q We'll we'll talk about that further
19	later.
20	You have not undertaken to compare
21	reported rates or reported incidents, let's put it
22	that way, reported numbers of incidents of any of
23	the complications you've identified in the various
24	ones of the Bard filter models, have you?
25	A No, I have not done that.

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	Page 51
1	fracture known and foreseeable risks of IVC
2	filters?
3	A Of many IVC filters, yes.
4	Q And are you aware that some of those
5	events have undesirable effects on the patient and
6	some don't?
7	MR. O'CONNOR: Form.
8	THE WITNESS: Well, I'm not a medical
9	expert so I can't really answer that question.
10	BY MS. DALY:
11	Q Fair enough.
12	And similarly, as an as an engineer,
13	you're not qualified to give an opinion as to what
14	the benefits are of any to any given patient of
15	the use of an IVC filter, true?
16	MR. O'CONNOR: Form.
17	THE WITNESS: No, I would not do that. I
18	would not offer such opinions on the benefits.
19	BY MS. DALY:
20	Q Okay. Are you giving any opinions in this
21	litigation that Bard complied with or failed to
22	comply with any specific FDA regulations?
23	A No, I'm not offering such opinions.
24	Q If you look at page 10 of the report
25	you're looking at now, you say that "Bard was not

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	Page 52
1	frank and honest with the FDA and did not fully
2	inform the FDA of deficiencies in the G2 filter."
3	Do you see that? It's at the very last
4	long sentence at the bottom of 10.
5	A Yes. I see that.
6	Q What's the basis for your opinion?
7	A The basis, I'm relying on Dr. Parisian for
8	that opinion.
9	Q Okay. You have not reviewed the materials
10	that she has reviewed, for example, true?
11	A I've not reviewed
12	MR. O'CONNOR: Form.
13	THE WITNESS: all of that material. I
14	probably have seen some of it.
15	BY MS. DALY:
16	Q And to your point a moment ago that you
17	are not giving opinions about FDA regulations, is
18	it also fair to say that you are not giving
19	opinions about what Bard's corporate behavior was
20	vis-a-vis what was expected by the FDA?
21	A I'm
22	MR. O'CONNOR: Form.
23	THE WITNESS: I'm not offering such
24	opinion. Although may I go back and add to my
25	answer to your previous question

	Page 129
1	severe stiffness constraint on whether the relative
2	motion of the arms and the legs can be accommodated
3	as the filter, if you like, tries to stretch. So
4	that that's a possibility.
5	Q Do you have any case that you can point to
6	that you have worked on where there was imaging
7	evidence of perforation, tilt or migration that
8	occurred before a leg fracture?
9	A I haven't looked into that.
10	MR. O'CONNOR: Belated objection to the
11	form of the question.
12	BY MS. DALY:
13	Q Have you done any work to determine what
14	modifications Bard could have made to the legs
15	themselves to improve on those legs' contribution,
16	if any, to tilt, perforation, fracture or
17	migration?
18	A No, I haven't looked into that.
19	Q We've talked a little bit about the
20	anchors and limiters present on the Meridian. Is
21	it your opinion that those are reasonable
22	modifications by Bard to to improve resistance
23	to migration, tilt and perforation?
24	A It's a reasonable concept for how the tilt
25	and migration behavior can become can be

	Page 130
1	limited.
2	Q Would do you have an opinion whether
3	those anchors or limiters on the Meridian would add
4	fracture resistance to that filter?
5	A I have no opinion on that.
6	Q Same questions with Denali, do you think
7	that the limiters that the Denali has will act to
8	improve resistance to migration, tilt, perforation
9	and fracture?
10	MR. O'CONNOR: Form.
11	THE WITNESS: It's it is reasonable to
12	expect that there will be some effect on on tilt
13	and migration and that those would have possible
14	knock-on consequences to perforation and fracture.
15	And so I'd like to revise my answer about the
16	Meridian in the same way, that the caudal anchors,
17	to the extent they limit tilt and migration, they
18	could have beneficial effects on perforation and
19	fracture.
20	BY MS. DALY:
21	Q Okay. What modifications to the G2 filter
22	assisted in resistance to cephalic migration? Do
23	you have an opinion on that?
24	MR. O'CONNOR: Form.
25	THE WITNESS: I'm not aware of any changes

	Page 131
1	that would have had an impact on cephalic
2	migration.
3	BY MS. DALY:
4	Q Are you aware that the incidents of
5	cephalic migration of G2 and later Bard filters
6	has has improved greatly?
7	A I'm not aware of that.
8	Q What about the change to the G2 filter
9	contributed to caudal migration, if you have an
10	opinion?
11	MR. O'CONNOR: Form.
12	THE WITNESS: Sorry, can you repeat the
13	question.
14	BY MS. DALY:
15	Q Yeah.
16	Do you have an opinion about whether any
17	design modification that Bard made to the G2 filter
18	resulted in caudal migration?
19	A You mean going from the Recovery to the G2
20	filter
21	Q Yeah.
22	A whether that improved caudal migration?
23	Q No, whether it caused it.
24	A Whether it contributed to it.
25	Q Yes.

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	Page 132
1	A I have no opinion on that because I have
2	not studied it.
3	Q Okay. Have you studied what the mechanism
4	is anatomically to create caudal migration in any
5	Bard filter?
6	A I've not studied that independently.
7	Q Okay.
8	A I've only
9	Q What does that mean?
10	A What does it mean. I've looked at the
11	Bard report of their bench test
12	Q Okay.
13	A and which is suggestive of a
14	mechanism that can drive caudal migration.
15	Q Okay.
16	A Because it's because it's associated
17	with tilt.
18	Q Okay. And have you done any work to
19	determine how Bard might have modified its filters
20	to reduce tilt that you associate with caudal
21	migration, with contributing to caudal migration?
22	MR. O'CONNOR: Form.
23	THE WITNESS: Well, the only observation I
24	have is that the effective caudal anchors would
25	have had a beneficial effect, but otherwise I've

Page 133 done no thinking or studying of that. 1 2 BY MS. DALY: 3 All right. If you look at your report, 0 page 13, it's the G2 Express filter. 4 5 Α Yes. We've talked about the cap change I think 6 0 7 exhaustively. 8 Α Yes. And did you have any other observation of 9 0 the G2 Express as -- as having characteristics that 10 11 that particular filter had that contributed to any 12 of these complications different from Recovery and 13 G2? 14 Well, the cap -- sorry, the hook on the Α 15 cap, because it would have touched -- during tilt 16 it would have been touched, under certain 17 assumptions about how the filth occurs, it would 18 have touched the wall of the vena cava first as 19 opposed to other points on the cap, and that would 2.0 have had some effect on what happens in terms of perforation and tilting of the -- of the filter. 21 22 And it's my assumption that the big hook would have taken -- would have been -- would have 2.3 24 taken longer to perforate through the wall of the 25 vena cava than the cap itself, although that's just

	Page 149
1	A I don't have any information on that.
2	Q What about its ability to migrate either
3	cephalad or caudal, do you have any information on
4	that?
5	A I have no direct information on that.
6	Q So your criticism is that there are
7	aspects of the Denali that in your opinion will
8	allow it make it that it can tilt, perforate,
9	fracture or migrate?
10	A Yes. And I I I should comment that
11	there is some description of of events for the
12	Denali in the supplementary report.
13	Q Right. Right. And I'm going to
14	A I don't mean to ignore
15	Q get to those.
16	A that.
17	Q Yeah, I'm going to get to those.
18	Okay. Do you know of modifications to the
19	Bard filters, any of them, that would have made
20	them unable to fracture, tilt, perforate or
21	migrate?
22	MR. O'CONNOR: Object to the form of the
23	question.
24	May I hear the question back again.
25	THE WITNESS: Could you repeat the

Page 150
question.
MS. DALY: Can you read that one.
(Record read as follows:
"Do you know of modifications to
the Bard filters, any of them,
that would have made them unable
to fracture, tilt, perforate or
migrate?")
THE WITNESS: I haven't studied that.
BY MS. DALY:
Q So you you do not have an opinion that
there was a method by which Bard could eliminate
tilt, fracture, perforation or migration in any one
of its iterations from Recovery to Denali?
MR. O'CONNOR: Form and foundation.
THE WITNESS: You mean simultaneously
eliminate all of those negatives?
MR. O'CONNOR: Form.
BY MS. DALY:
Q Or one by or any of them, either all of
them or, yes, you could you could have
eliminated completely this, this or this.
A Well, I I think it's possible to
eliminate one of the phenomena by itself but
Q What's that?

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	Page 175
1	either with your analysis?
2	A No, I have not.
3	MR. O'CONNOR: Form.
4	BY MS. DALY:
5	Q Okay. Are you aware of any FDA
6	regulations relating to testing that Bard failed to
7	meet?
8	MR. O'CONNOR: Form.
9	THE WITNESS: I'm I'm not giving any
10	opinion on what they did relative to requirements
11	of the FDA.
12	BY MS. DALY:
13	Q All right. Thank you.
14	Are you going to provide an opinion that
15	Bard had a higher rate of any particular type of
16	complication relative to other filters?
17	MR. O'CONNOR: Form.
18	THE WITNESS: I'm not going to offer any
19	opinion on the relative rates of complications of
20	one filter versus another.
21	BY MS. DALY:
22	Q What about one Bard filter versus another
23	Bard filter?
24	A I'm not going to give an opinion on that
25	because I don't have enough data to truly assess

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	Page 176
1	the situation.
2	Q Okay. You're not going to give opinions
3	on your interpretation of medical literature that
4	reports on various incidents of complications then;
5	is that correct?
6	A I'm not going to give opinions on what's
7	in the medical literature, other than to say that
8	they're consistent with my assessment of the
9	engineering considerations of the filter and that
LO	they tend to confirm that the filters are
L1	have are dangerous.
L2	Q Well, let's talk about that a minute.
L3	What you what you would take from medical
L 4	literature is that there are reports of, for
L5	example, fracture, perforation, tilt and migration
L6	in Bard filters, true?
L7	A Yes, that's correct.
L8	Q And you also see medical literature that
L9	says that there are perforations, tilts, migration
20	and fractures in other IVC filters on the market,
21	true?
22	A I'm aware of those reports.
23	Q Okay. And so what did you how are you
24	using medical literature to support a conclusion of
25	dangerousness? That's where I'm

	Page 186
1	Q Did you read her report?
2	A I read it at the time that I wrote this
3	report.
4	Q Okay. Did you review any of the actual
5	data that she analyzed?
6	A I looked at tables and other information
7	in her reports. So in that sense I I reviewed
8	it.
9	Q Her Excel sheets, did you
10	A No, I didn't
11	Q review her
12	A No, I did not look at her Excel sheets.
13	Q Okay. Do you know what information her
14	spreadsheets contain or don't contain with respect
15	to information about the Simon nitinol filter
16	versus other Bard filters?
17	A Well, I understand that the her Excel
18	sheets contain information about failures that were
19	identified in Bard and well, Bard filters and
20	that the source of some of that information was
21	more data, and so on.
22	Q Do you know what time frames she had data
23	for data from?
24	A I would need to look at her report to give
25	you a specific answer to that.

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	Page 187
1	Q Okay. If I tell you that she had data on
2	the Simon nitinol from 2004, do you know that one
3	way or another?
4	A I
5	MR. O'CONNOR: Form.
6	THE WITNESS: I don't know that
7	information, but I could establish it by reviewing
8	her report.
9	BY MS. DALY:
10	Q Well, it that's fine.
11	You did not perform any of the biostat
12	biostatistical calculations that went into her
13	report, true?
14	A No, I yes, that's true, I did not carry
15	out any of those calculations.
16	Q And you did not independently verify her
17	work?
18	A No.
19	Q Did you provide her with any information
20	that she used in her report or that she
21	considered
22	A No
23	Q as far as you know?
24	A I provided her no information.
25	Q Have you talked to her about the report?

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	Page 193
1	Q You received it from an attorney?
2	A I received it from an attorney.
3	Q Okay. And you had not had that before?
4	A No, I had not had an exemplar in my
5	possession before.
6	Q Did your examination of the exemplar
7	change anything that you've written in the rebuttal
8	report about the SNF
9	A No.
10	Q or how it compares
11	A No.
12	Q to the Bard filters?
13	A No.
14	Q All right. You to do your rebuttal
15	report, you looked at the engineering drawings for
16	the SNF
17	A Correct.
18	Q is that true?
19	A That's correct.
20	Q What else did you look at?
21	A I looked at well, I was looking at the
22	510(k) for the Recovery
23	Q Okay.
24	A and it told me various things to do
25	with changes that were made, such as the diameter

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	Page 194
1	of the of the limbs and the material of which
2	the filters were made, and so that enabled me to
3	draw conclusions about how to compare the Simon
4	nitinol with the other filters.
5	Q Okay. And the Simon nitinol filter is
6	basically got a round a rounded dome with
7	petals. You've got a good diagram of that at the
8	back of the report. And then legs on the bottom,
9	six legs?
10	A That's correct, yes.
11	Q Okay. What design characteristics of the
12	Simon nitinol filter make that filt made that
13	filter not retrievable percutaneously?
14	MR. O'CONNOR: Form and foundation.
15	THE WITNESS: Well, I'm not entirely sure
16	because I've not investigated that situation, but
17	it's my surmise that it is the extent of of
18	connection among the wire wires of the petals
19	and the vena cava wall which presents more material
20	that can bond from the vena cava wall to the petals
21	of the of the filter, and so that will generate
22	a robust connection between the filter and the vena
23	cava wall.
24	BY MS. DALY:
25	Q Did

	Page 195
1	A And also the the legs do seem to
2	perforate to some extent through the wall of the
3	vena cava, and I I'm assuming that that would
4	present complications upon retrieval.
5	Q Did you investigate whether once deployed
6	that petal formation was at all difficult to slim
7	back down, if you will, to crimp it into a sheath
8	for retrieval?
9	A Well, I made an estimate of the stiffness
10	of those petals, and so although I didn't make a
11	comparison with what is required to put it into the
12	delivery sheaths, I I did have the analysis at
13	hand from which that could be undertaken.
14	Q And you determined they were pretty stiff?
15	A They're they're
16	Q Not to use a good engineering term.
17	A Yeah, they're they're stiff compared to
18	the Bard arms sorry, the arms on the Recovery,
19	the G2, and other subsequent filters.
20	Q And the legs are stiffer than the Recovery
21	and other retrievable
22	A Yes.
23	Q Bard filters as well?
24	A That's correct.
25	Q Okay. You understand that the that

Page 205

filter overall, anything like that, that contributes to migration resistance?

A Well, the diameter of the wire controls the stiffness of the wire -- of the components that are made from the wire, so that has a -- that has an effect, which I've already alluded to in the -- in the answers I just gave.

Q Okay.

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A The length of the petals and the lengths of the legs also contribute to controlling the stiffness, so those would contribute as well. And I'm not sure if I can identify anything else, but those were -- those would be the things that I would identify.

Q Did you do any analysis of how one would make changes to either the petal dome or the legs of the SNF to allow it to be retrievable?

A Can I augment my answer of just a second ago? The -- the diameter or the span of the petals and the span of the arms -- the legs relative to the diameter of the vena cava would contribute to the forces which are involved and, therefore, contribute to the question of whether migration is or is not likely in the Simon nitinol filter.

But to move on to your subsequent

	Page 206
1	question, I didn't make do any analysis to look
2	at what changes might what changes what
3	impact they would have on the behavior of the of
4	the filter.
5	Q Including the last thing that you just
6	mentioned to me, the difference in span?
7	A Yes.
8	Q How that might have to be re-engineered to
9	allow for retrieval?
10	A I did not look at that.
11	Q Okay. The next thing that I saw from your
12	report was that the design of the SNF legs make
13	them more prone to perforation than the struts of
14	the Recovery and the G2?
15	MR. O'CONNOR: Where are you looking at in
16	the report?
17	BY MS. DALY:
18	Q The different ones start on page 11. Your
19	first one was migration, and then the little B on
20	page 11 is where I'm reading from right now.
21	I'm sorry, that's not where I got it from.
22	Go to page 13. I apologize. B on page 13.
23	A Yes.
24	Q So I think what you concluded there was
25	that the legs of the Simon nitinol were more prone